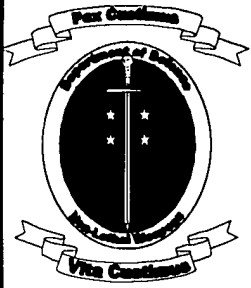


The U.S. Department of Defense Joint Non-Lethal Weapons Program

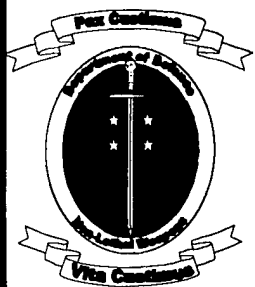


**A View to the Future
June 1998**



Purpose

**To provide an overview of the
U.S. Department of Defense
Joint Non-Lethal Weapons Program
and some thoughts on where the
Program needs to grow**

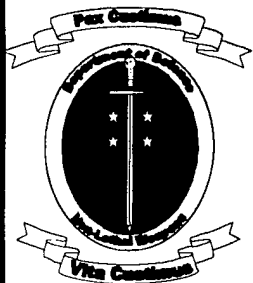


Emerging Operational Environment

Conflicts characterized by:

- **Urbanized Terrain**
- **Within the Littoral**
- **Non-state Actors**
- **“Subtle War”**





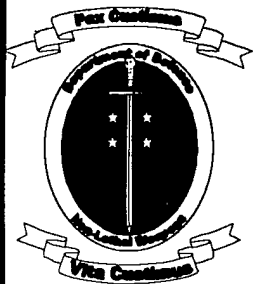
Challenges Facing Military Commanders



- **Noncombatants**
- **Media Factor**



- **Availability of Technology**
- **Public Misconception**
- **Increased Legal Issues**



The Real World

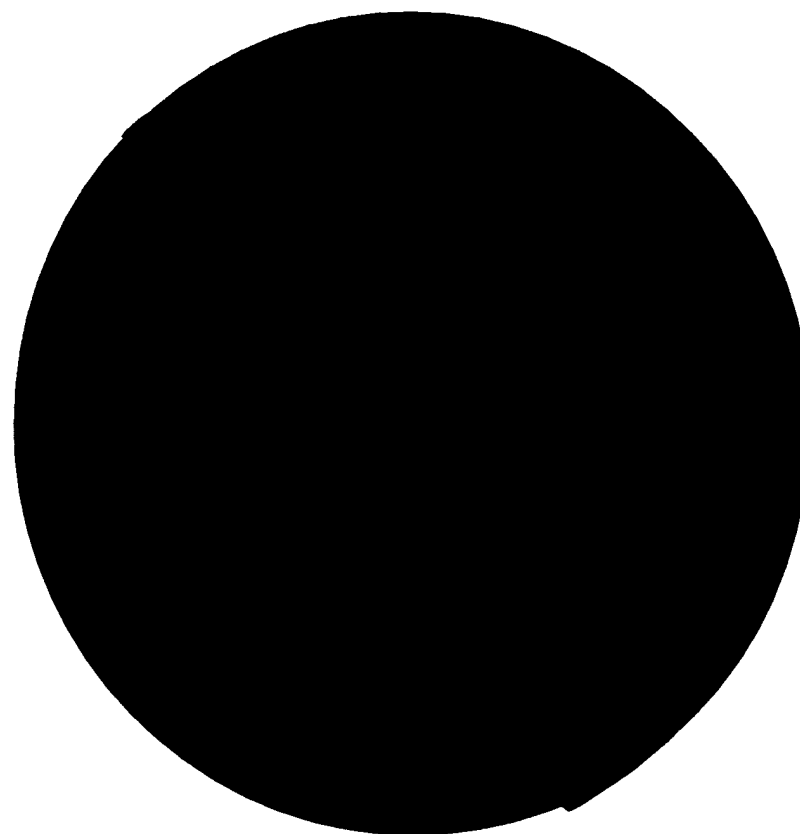
✦ **Haiti/Bosnia**

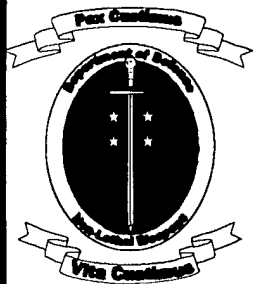
✦ **Iraq**

✦ **Sri Lanka ?**

✦ **Cuba ?**

✦ **NEOs ?**

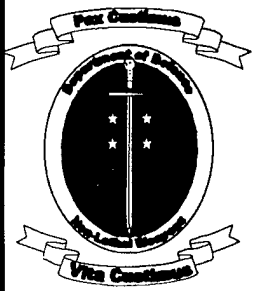




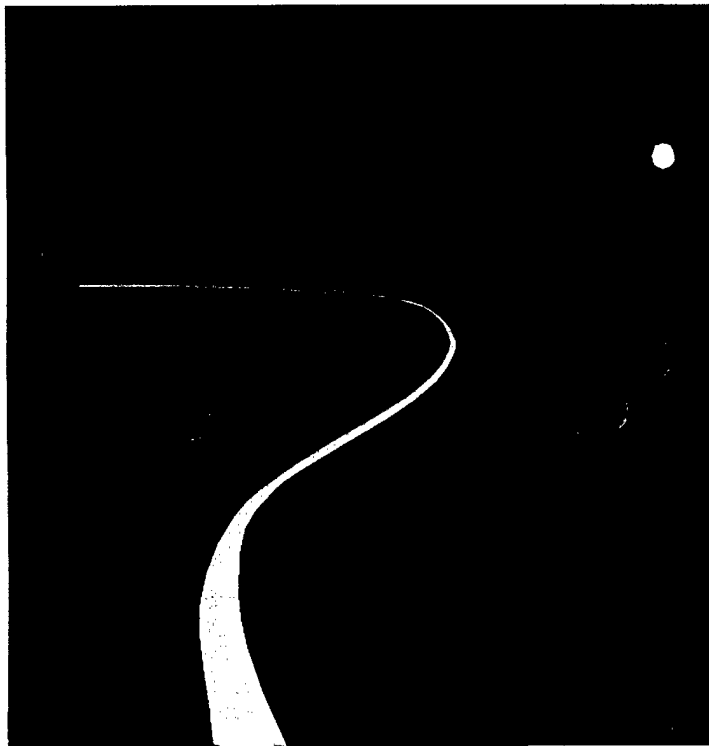
Defense Planning Guidance FY 2000 - 2005

“ NLWs have proven useful across the range of operations, including both conventional combat operations and the many categories of military operations other than war. . .

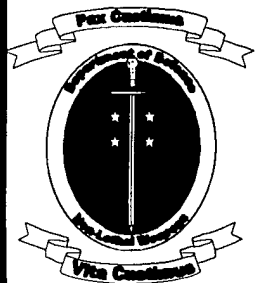
Current efforts to study and understand the use of NLWs from the strategic to the tactical levels must be integrated into all future military and interagency concepts and operations. “



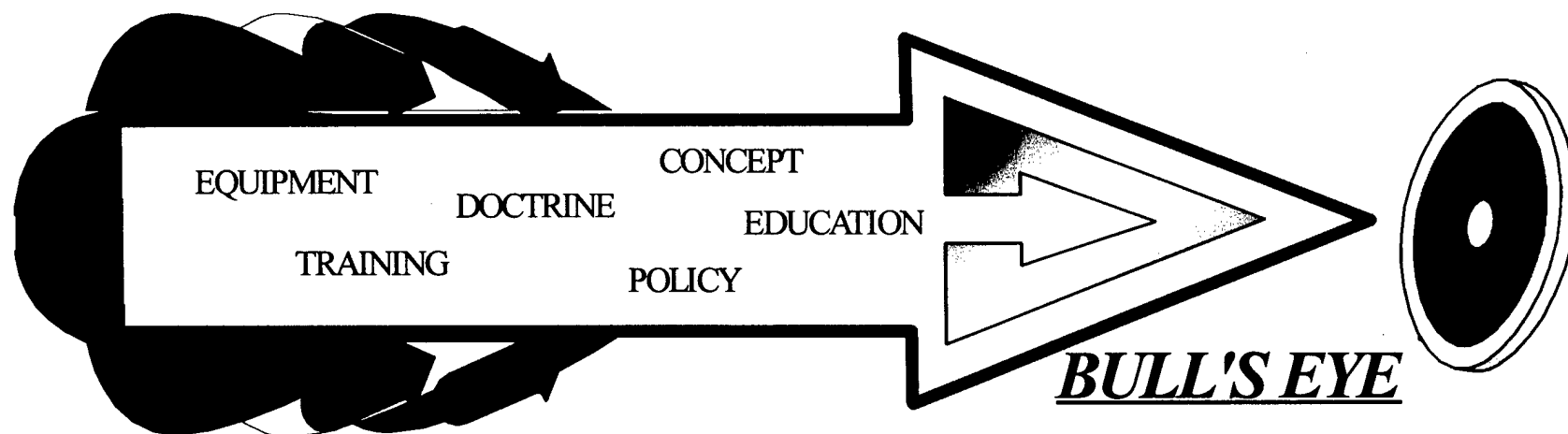
Where are NLWs headed?



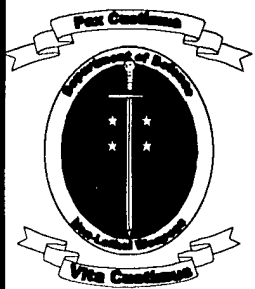
- A joint, coordinated and focused effort
- Oriented toward more rapid fielding
- Blend of low tech, near-term with high tech, long range
- Integrated capability across the spectrum of warfare



NLW *Vision Arrow*

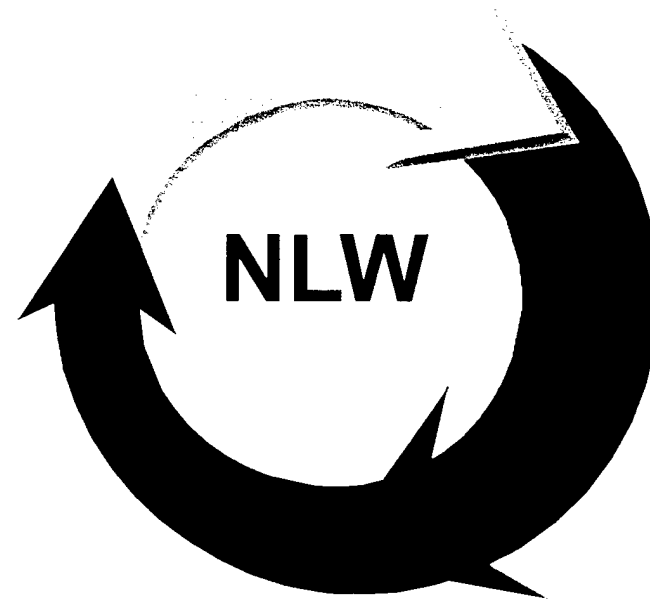


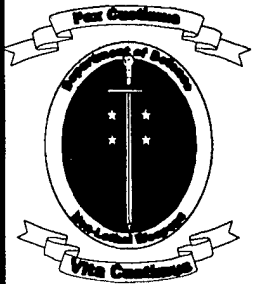
- + Developed, institutionalized, and fielded integrated capabilities
- + Multi-spectral, multi-level battlespace relevance
- + Understood new military capabilities at all levels
- + Integrated
 - Policy
 - CINC OPlans
 - Operations



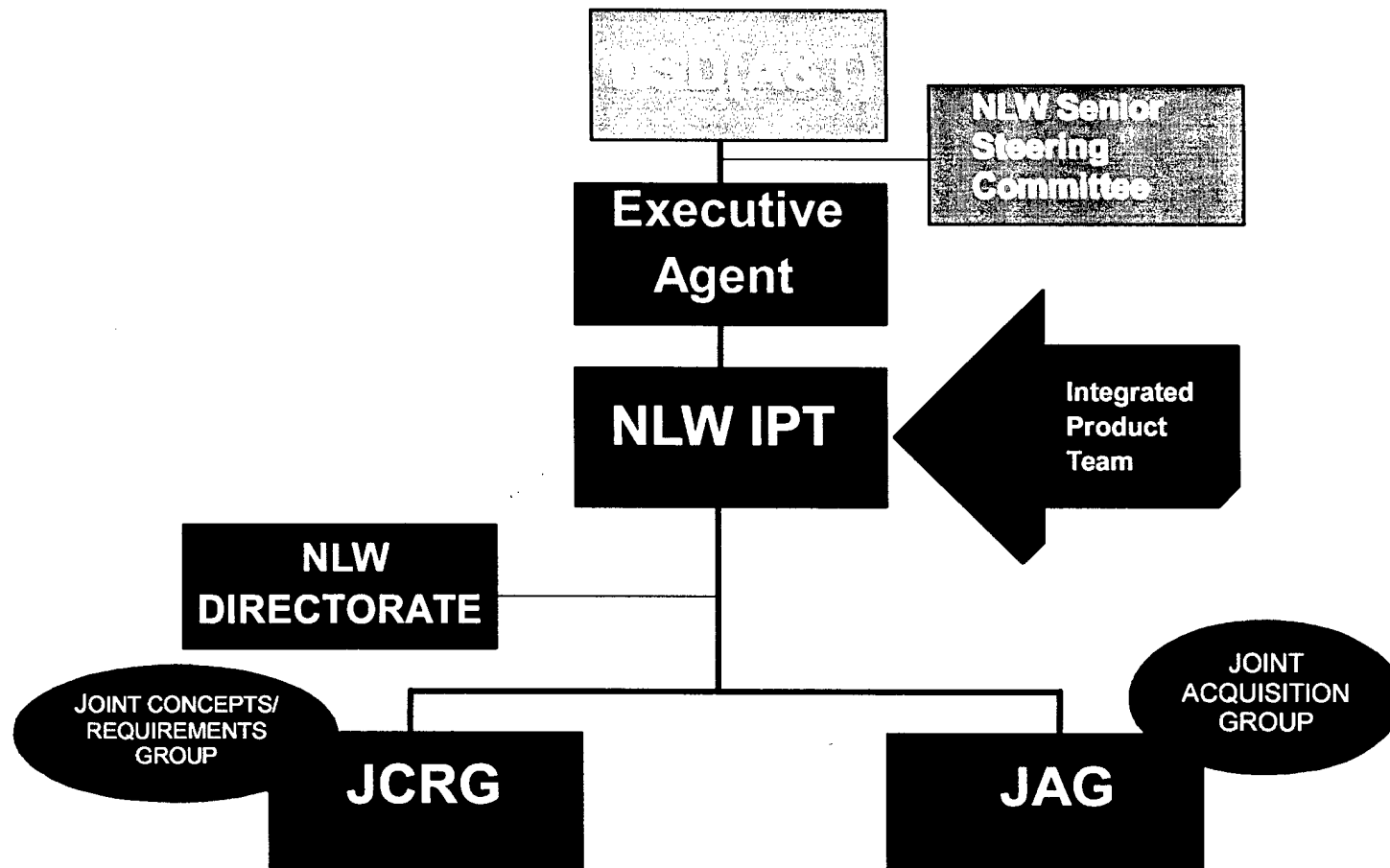
Current NLW Objectives

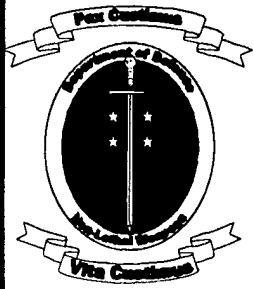
- Ongoing field support/
Capability Sets
- Formalize training
concept
- Meet or beat fielding
timelines
- Realize a stand-off
NL strike capability
- NLW vision > 2025





NLW Management Structure





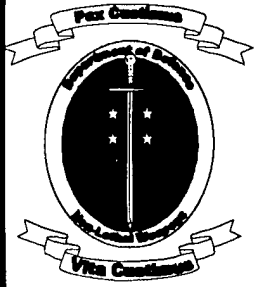
The Joint NLW Concept Core Capabilities

┌ Counter-Personnel

- └ Crowd Control**
- └ Incapacitate Individuals**
- └ Deny Access**
- └ Clear Facilities/Structures**

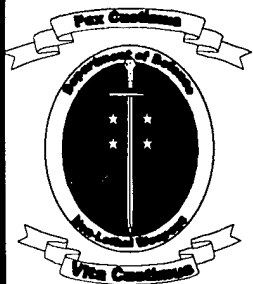
┌ Counter-Materiel

- └ Area Denial (land, sea and/or air space)**
- └ Disable/Neutralize Equipment or Facilities**

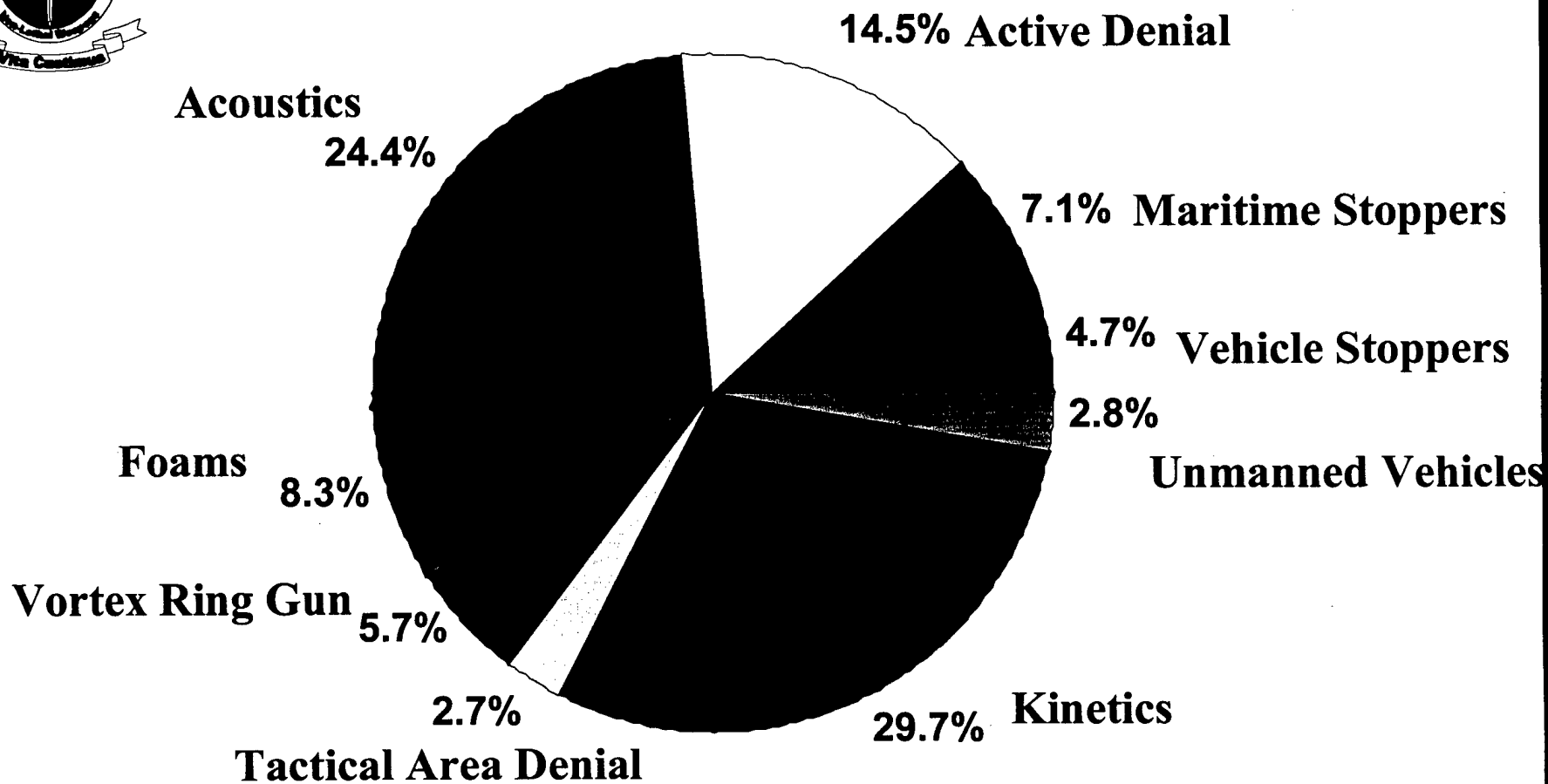


The Joint NLW Concept Guiding Principles

- ★ **Leverage High Technology**
- ★ **Enhance Operations**
- ★ **Augment Deadly (Lethal) Force**
- ★ **Provide Rheostatic Capability**
- ★ **Focus on Tactical Applications**
- ★ **Expeditionary**
- ★ **Acceptable**
- ★ **Reversible Effects**

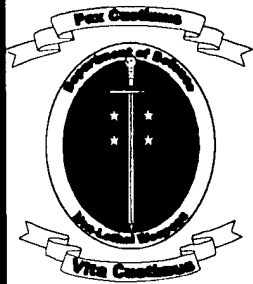


Technology Breakout

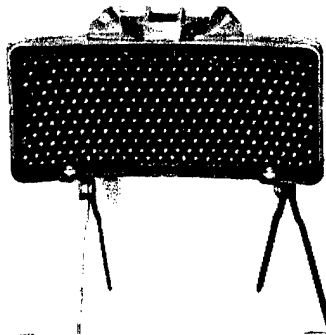


FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05
16807	23515	24681	25289	25896	26503	27139	27790

Note: In \$K



Current/Emerging Technologies

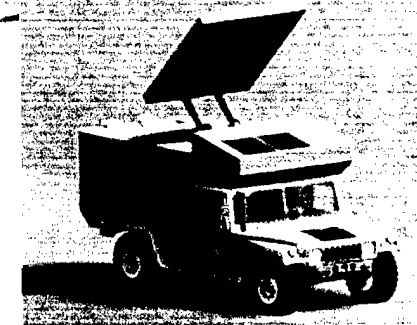
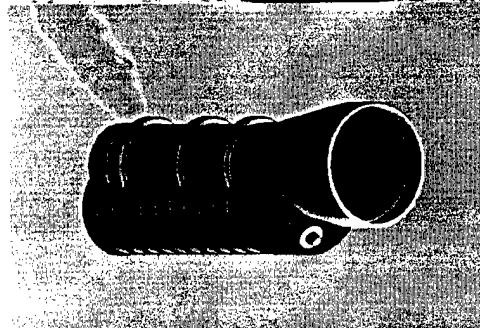


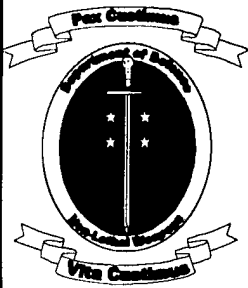
→ Kinetics/RCA's

→ Acoustics

→ Electromagnetics

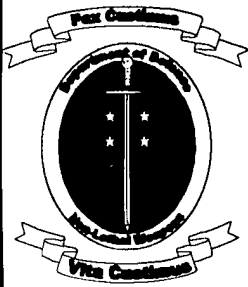
→ Lasers





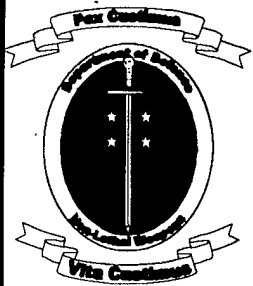
A Case For Non-lethals

- ➔ **Minimized casualties to noncombatants**
- ➔ **Reduced post-conflict costs**
- ➔ **Improved operational flexibility**
- ➔ **Enhanced effectiveness of lethal force**
- ➔ **Supports JV2010 Precision Engagement**



A Case Against Non-lethals

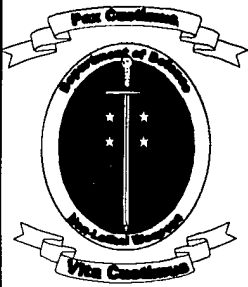
- ★ More likely to employ military option**
- ★ Increased complexity in operational decisions**
- ★ Increased early media attention**
- ★ Unrealistic public expectations**
- ★ Encourages proliferation of NLWs**



Evolving Concepts

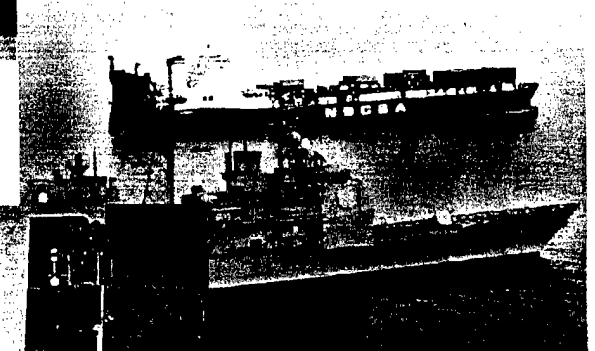
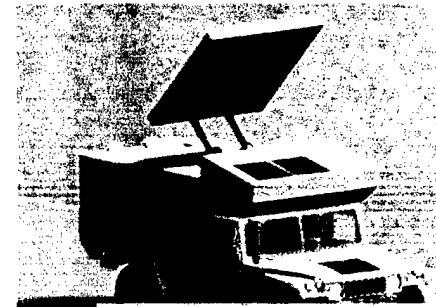
- *Layered Defense/Stand- Off*
- *Joint Operational Support Stock (JOSS)*
- *Non-lethal Capabilities Assistance Team (NCAT)*
- *Strategic targeting and delivery*

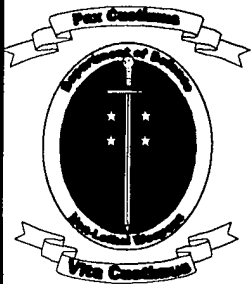




Future Technology Concepts

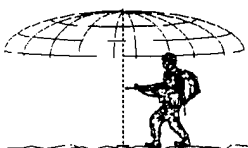
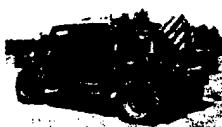
- *Calmatives*
- *Combustion Inhibitors*
- *Anti-microbials*
- *Vortex Ring*
- *Robotics*
- *Micro-miniaturization*
- *NLW/IO Interface*





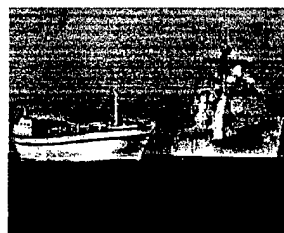
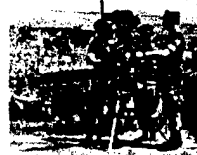
Non-Lethal Technologies Into the Future

**Near-Term
2000-2005**



★ **Stand-off**

**Mid-Term
2005-2010**



**OTHERS
???**

**Long-Term
2010-2025**

**OTHERS
???**



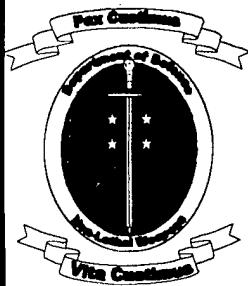
Holograms



HE Pulsed Lasers

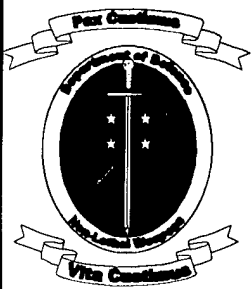


Dir Energy Wpns



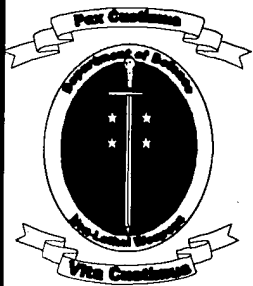
What Have We Learned in Bosnia, Haiti and Somalia ?

- ✓ **Low level of knowledge in theater**
- ✓ **Highly charged, political environment**
- ✓ **Other NL options may be available**
- ✓ **Tactical employment concepts lacking**
- ✓ **Potential use against operational targets**



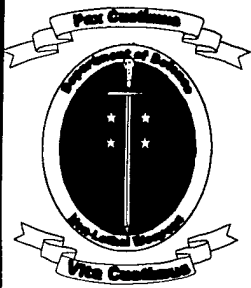
Rules of Engagement

- ✦ **CINC Conference held 7-8 Jan 1998**
- ✦ **Consensus achieved - no separate Annex, or additional restrictions on commanders**
- ✦ **Emphasis needed on training and TTPs**
- ✦ **Still looking to define "force"**
- ✦ **Refine current ROE during upcoming review - ongoing now**



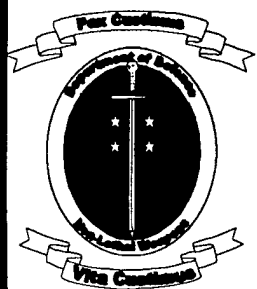
Joint Services NLW Training Concept

- Builds on past experience - already exists**
- Recognizes individual Services' training requirements**
- Comprehensive NL training package for resident trainer and user course, and mobile training capability**
- Training includes tactics, communications, crowd dynamics, weapons/munitions, and rules of engagement**

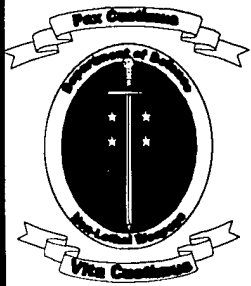


Other NLW Initiatives

- **Joint NLW 2025 Vision**
- **JNLW Web Site**
- **DOD NLW Database**
- **Joint Integration Project**
- **Annual Report**
- **Human Effects Panel**
- **Foreign Exchange**
- **PAO Guidance**



NLW Scenario Review

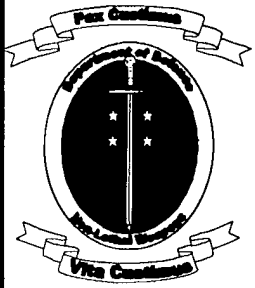


Somalia Redux

Situation: Friendly government in disarray with numerous internal factions. Humanitarian concerns . NGO support/security required. U.S. involvement solicited by all parties.

Conditions: - Violent mob behavior
- Infrastructure inoperative
- U.S. Embassy centrally located

Requirement: Stabilize, secure feeding stations and infrastructure sites.

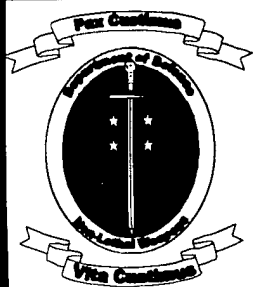


Southeast Asia Crisis

Situation: Friendly government in disarray.
Neighboring country with hegemonic goals
has attacked. U.S. citizens/interests at risk. UN
action authorized to repel invasion.

Conditions: - Violent mob behavior
- MSR's clogged and impassable
- Congested urban environment

Requirement: Massive evacuation of U.S. and
allied noncombatants.



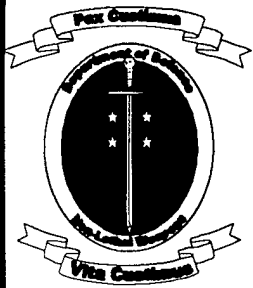
Son of DESERT STORM

Situation: Non-aligned, hostile government attacks neighboring country. Invasion threatens U.S. interests and regional stability. UN-sanctioned deployment to stop invasion and restore border.

Conditions:

- Conventional, high intensity war
- Noncombatants shield key targets
- Maritime blockade effected

Requirement: Destroy enemy government ability to function while minimizing collateral damage.

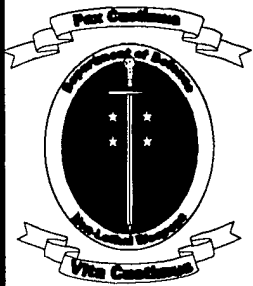


Weapons of Mass Protection ?

Situation: Biological weapons and manufacturing facility uncovered in friendly but unstable country. Host nation unable to address threat. Potential for spread of terrorist activity is high.

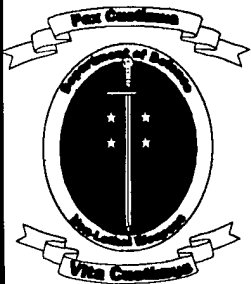
**Conditions: - Facility located in dense urban area
- Terrorist faction professionally adept
- Restricted to covert special ops**

Requirement: To isolate and destroy stockpile of biological facility with no collateral damage.



Operational Decision Complex

- ➡ Is lethal force adequate to the task ?**
- ➡ If not, will non-lethal force be appropriate ?**
- ➡ If so, which non-lethal technologies might apply ?**
- ➡ Where are they ? How do I access them ?**
- ➡ What are the legal/ROE implications ?**
- ➡ What are my employment options ?**



Summary

